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TANK VESSELS IN DOMESTIC TRADE

Protection of Marine Environment; Notice of Proposed Rulemaking

DEPARTMENT OF TRANSPORTATION

Coast Guard

[33 CFR Parts 151, 157]

[CGD 74-32]

TANK VESSELS ENGAGED IN DOMESTIC TRADE

Protection of Marine Environment; Notice of Proposed Rulemaking

The Coast Guard is considering amending the pollution regulations by adding interim regulations that govern the design and operation of certain seagoing U.S. tank ships and barges certified to carry oil in the domestic United States trade.

Written comments. Interested persons are invited to participate in this proposed rulemaking by submitting written views, data, arguments, objections, and comments to the Executive Secretary, Marine Safety Council (G-CMC/82), Room 8234, U.S. Coast Guard, Washington, D.C. 20590. Each person submitting comments should include his name and address, identify this notice (CGD 74-32), and give reasons for any recommendation. Comments received will be available for examination by interested persons in Room 8234, U.S. Coast Guard Headquarters, Washington, D.C.

Public Hearing. The Coast Guard will hold public hearings on July 23 and 24, 1974 beginning at 9:00 a.m., in the Shaw Room, Seattle Center, 203 Harrison St., Seattle, Washington, and on July 30 and 31, 1974, beginning, at 9:00 a.m., in Room 2232, 400 Seventh Street, S.W., Washington, D.C. Interested persons are invited to attend the hearings and present oral or written statements on this proposal. It is requested that anyone desiring to make oral comments at either hearing notify the Executive Secretary, at the above stated address, by July 19, 1974, and specify the approximate length of time needed for his presentation. Submission of a written summary or copy of the oral presentation is encouraged.

Closing date for comments. All communications received before August 19, 1974, will be evaluated before final action is taken on this proposal. These proposed regulations may be changed in light of the comments received.

In the January 26, 1973, issue of the FEDERAL REGISTER (38 2467), an advance notice of proposed rulemaking was published concerning standards for pollution abatement for new tank ships constructed for trade on the navigable waters of the United States. The construction requirements concerned the concept of segregated ballast tanks achieved, in part by fitting a double bottom in the cargo length.

The advance notice was published with two purposes in mind:

1. Participation by the public in the regulatory process in implementing section 201 of the Ports and Waterways Safety Act of 1972 (Pub. L. 92-340, 86 Stat. 427, 46 U.S.C. 391(7)); and

2. Complying with the effective date of January 1, 1976, mandated by Congress.

Over 60 comments were received on the advance notice and an evaluation of the comments was made. The comments contained three common areas of concern. These were:

1. The high initial cost associated with double bottoms.

2. The need for international agreement and the danger of unilateral action.

3. The treatment to be accorded existing foreign and domestic shipping not covered.

In the July 5, 1973, issue of the FEDERAL REGISTER (38 FR 17848), the Coast Guard published a supplement to the advance notice of proposed rulemaking. This supplement explained that 46 U.S.C. 391a (c), as amended, allowed for the establishment of rules and regulations consonant with international treaties, conventions, or agreements. Since the IMCO International Conference on Marine Pollution was scheduled in October 1973, and since the results of the Conference would have a direct bearing on implementing regulations under section 391a (7), the Coast Guard notified the public that action under the advance notice would be withheld.

The authority of the proposed regulations, section 201 of title II of the Ports and Waterways Safety Act of 1972 (Pub. L. 92-340, 86 Stat. 427), amends section 4417a of the Revised Statutes of the United States (46 U.S.C. 391a). Subsection 3 of the amended section 4417a reads as follows:

(3) Rules and Regulations—In order to secure effective provisions (A) for vessel safety, and (B) for protection of the marine environment, the Secretary of the department in which the Coast Guard is operating (hereafter referred to in this section as the "Secretary") shall establish for the vessels to which this section applies such additional rules and regulations as may be necessary with respect to the design and construction, alteration, repair, and maintenance of such vessels, including, but not limited to, the superstructures, hulls, places for stowing and carrying such cargo, fittings, equipment, appliances, propulsive machinery, auxiliary machinery, and boilers thereof; and with respect to all materials used in such construction, alteration, or repair; and with respect to the handling and stowage of such cargo, the manner of such handling or stowage, and the machinery and appliances used in such handling and stowage; and with respect to equipment and appliances for lifesaving, fire protection, and the prevention and mitigation of damage to the marine environment; and with respect to the operation of such vessels; and with respect to the requirements of the manning of such vessels and the duties and qualifications of the officers and crew thereof; and with respect to the inspection of all the foregoing. In establishing such rules and regulations the Secretary may, after hearing as provided in subsection (4), adopt rules of the American Bureau of Shipping or similar American classification society for classed vessels insofar as such rules pertain to the efficiency of hulls and the reliability of machinery of vessels to which this section applies. In establishing such rules and regulations, the Secretary shall give due consideration to the kinds and grades of such cargo permitted to be on board such vessel. In establishing such rules and regulations the Secretary shall, after consultation with the Secretary of Commerce and the Administrator of the Environmental Protection Agency, identify those established for protection of the marine environment and those established for vessel safety.

In addressing itself to the requirements for rules and regulations for the protection of the marine environment, Congress has directed the following in subsection (7) (A) and (C):

(7) Rules and regulations for protection of the marine environment relating to vessel design and construction, alteration, and repair; international agreement—(A) The Secretary shall begin publication as soon as practicable of proposed rules and regulations setting forth minimum standards of design, construction, alteration, and repair of the vessel to which this section applies for the purpose of protecting the marine environment. Such rules and regulations shall, to the extent possible, include but not be limited to standards to improve vessel maneuvering and stopping ability and otherwise reduce the possibility of collision, grounding, or other accident, to reduce cargo loss following collision, grounding, or other accident, and to reduce damage to the marine environment by normal vessel operations such as ballasting and deballasting, cargo handling, and other activities.

* * * * *

(C) Rules and regulations published pursuant to subsection (7) (A) shall be effective not earlier than January 1, 1974, unless the Secretary shall earlier establish rules and regulations consonant with international treaty, convention, or agreement, which generally address the regulation of similar topics for the protection of the marine environment. In the absence of the promulgation of such rules and regulations consonant with international treaty, convention, or agreement, the Secretary shall establish an effective date not later than January 1, 1976, for rules and regulations previously published pursuant to this subsection (7) which he then deems appropriate.

* * * * *

Section 201 of the Ports and Waterways Safety Act of 1972 applies to all United States vessels carrying liquid cargo in bulk which is—

(A) inflammable or combustible, or

(B) oil, of any kind or in any form, including but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil, or

(C) designated as a hazardous polluting substance under Section 12(a) of the Federal Water Pollution Control Act (33 U.S.C. 1162);

Section 201 applies to foreign vessels carrying the cargoes, set forth in the preceding, while operating on the navigable waters of the United States.

Section 401 of the Act of November 16, 1973 (Pub. L. 93-153, 87 Stat. 589) amended the effective dates in subsection (7) (C) of section 201 and added the requirement that, "Rules and regulations published pursuant to Subsection (7) (A) shall be effective not later than June 30, 1974, with respect to United States flag vessels engaged in the coastwise trade." As previously noted, subsection (7) (A) requires publication of minimum standards of design, construction, alteration, and repair of the vessels to which section 201 applies for the purpose of protecting the marine environment.

The phrase "coastwise trade" is not defined by the Act, but the phrase ap-

pears in other statutes and has been used interchangeably with the phrase "coasting trade." Both of these phrases have been defined juridically to include not only trade between points in the United States along the seacoast but also to trade by way of rivers and lakes.

Section 4417a of the Revised Statutes of the United States (46 U.S.C. 391a) prior to its amendment by the Ports and Waterways Safety Act of 1972 applied to all vessels carrying inflammable or combustible liquid cargo in bulk, except public vessels owned by the United States. Section 7(D) of section 201 specifies that any rule or regulation for the protection of the marine environment promulgated pursuant to subsection (7) must be equally applicable to U.S. flag vessels engaged in foreign trade and to foreign vessels. Since there was no provision in 46 U.S.C. 391a authorizing any distinction in treatment between U.S. vessels engaged in foreign trade and U.S. vessels engaged in the coastwise trade, nor any provision authorizing any distinction in treatment between U.S. vessels and foreign vessels, it is clear that the intent of the Congress in subsection 7(D) was to assure in the implementation of subsection 7(C) that no distinction of treatment between U.S. and foreign vessels be inferred from any treaty, convention, or international agreement. Section 401 of the Act of November 16, 1973, introduced the first distinction in treatment of U.S. vessels under the Ports and Waterways Safety Act of 1972, accelerating the date for promulgation of certain regulations for U.S. vessels engaged in the coastwise trade, and allowing the regulations for U.S. vessels engaged in the foreign trade and foreign vessels to be published at a later time. Accordingly, the regulations proposed in this document apply to U.S. vessels engaged in trade other than the foreign trade. Since these proposed regulations are consistent with both the International Conference for Prevention of Pollution from Ships, 1973, and current domestic law, the regulations are proposed as interim regulations until that time prior to January 1, 1976, when regulations for U.S. vessels in foreign trade and foreign vessels entering U.S. waters will be effective.

The Coast Guard uses the term "coastwise" and "coastwise routes" for the purpose of the application of certain vessel inspection requirements (46 CFR 30.01–7, 70.10–13, 90.10–11 and 175.10–3) that are unrelated in meaning to "coastwise trade" or "coasting trade." Because the cabotage law phrase "coastwise trade" has been employed in section 201 of the Ports and Waterways Safety Act of 1972, the phrase "domestic trade" has been used in these proposed regulations to avoid any confusion that might arise with regard to inspection regulations. Accordingly, the term "domestic trade" is defined as meaning the trade between ports or places within the United States, its territories and possessions, either directly or via a foreign port, including trade on the navigable rivers, lakes, and inland waters.

The Coast Guard has determined that the regulations promulgated pursuant to section 401 of the Act of November 16, 1973, should conform in a substantial manner with the provisions of the conventions dealing with oil pollution which have been elaborated but which have not come into force. These conventions are of general application and it is quite clear that they apply to seagoing vessels. It is equally clear that some provisions relating to design, construction, and operation are inappropriate to vessels operating on some navigable internal waters or to certain types or sizes of vessels.

For the foregoing reasons the Coast Guard has determined that these regulations will apply generally to United States seagoing tank vessels of 150 gross tons or more while engaged in the carriage of oil (defined in the proposed section 157.03(m) as petroleum in any form including oil, sludge, oil refuse, and refined products) in the domestic U.S. trade. Additionally, certain provisions will be applied to U.S. vessels operating in the Great Lakes.

Taking into account the fact that the Marine Pollution Conference was concluded in November of 1973 and the Act of November 16, 1973, was enacted in the same month, and that title II of the Ports and Waterways Safety Act of 1972 prior to amendment required environmentally related regulations to be promulgated by January 1, 1976, the Coast Guard has determined that it cannot develop new environmentally related regulations for certain types of vessels, principally unmanned barges operating on the rivers, to be effective on June 30, 1974. The Coast Guard and the Maritime Administration, jointly, are currently studying the design and construction of barges. The determinations from that study which will be completed in 1974 are viewed by the Coast Guard as necessary in the formulation of any additional design and construction standards for inland barges.

The Coast Guard, in the administration of its vessel safety and environmental protection programs must consider all of its statutory authorities as being integrated despite, in certain instances, overlapping authorities. In the case of the carriage of oil by vessels, there is authority under section 311 of the Federal Water Pollution Control Act (Pub. L. 92–500, 86 Stat. 816, 33 U.S.C. 1251) in addition to the Ports and Waterways Safety Act of 1972 to promulgate environmentally oriented regulations. The Coast Guard deems that the vessel design regulations contained in 33 CFR Part 155, issued under section 311J(1)(C) and (D) which are applicable to all vessels operating on the waters of the United States, meet, in large part, the spirit of the requirements imposed by section 401 of the Act of November 16, 1973.

The Coast Guard fully intends to provide comprehensive rational and necessary regulations under title II of the Ports and Waterways Safety Act of 1972 to comply with the amended provisions of section 7 thereof but finds it necessary to divide these regulations into categories appropriate to the kinds of vessels and the nature of hazardous exposure. To summarize this discussion, certain categories of regulations are susceptible to promulgation within the statutory time frame; others will be promulgated as soon as practicable after June 30, 1974.

In accordance with the preceding, the proposal follows the Convention, including the adoption of the metric system for certain calculations, the Oil Record Book requirements, and the discharge criteria for oil. These requirements are consistent with the U.S. proposals at the 1973 Conference and are much more stringent than present requirements for discharges.

The proposed requirements do not apply to the following vessels which are exempted by law from the requirements of section 201 of the Ports and Waterways Safety Act:

1. Public vessels that are not engaged in commercial services.

2. Vessels that carry oil only for use as fuel or stores, or carrying such cargo only in drums, barrels, or other packages.

3. Cannery tenders, fishing tenders, or fishing vessels of not more than 500 gross tons used in the salmon or crab fisheries of the States of Oregon, Washington, and Alaska when engaged exclusively in the fishing industry that are allowed to have on board petroleum products in bulk in accordance with requirements contained in 46 CFR Part 105.

4. Vessels of not more than 500 gross tons documented in the service of oil exploitation that are not tank vessels and that are subject to the proposed regulations only because of the transfer of fuel from the vessels' own fuel supply tanks to offshore drilling or production facilities.

Regulations to cover ships other than tankers which have their certificates of inspection endorsed to carry relatively small amounts of liquid bulk cargo, usually specialty products in deep tanks, will be issued in the future after a full assessment of the impact can be determined. Since no substances have been designated as hazardous polluting substances under section 311(b)(2)(A) of the Federal Water Pollution Control Act, regulations cannot be proposed at this time applicable to vessels carrying such substances.

The proposed design requirements contain standards for segregated ballast tanks required on a new vessel (defined in the proposed section 157.03(i)) of 70,000 deadweight tons or more. These standards include size and capacity requirements and piping arrangements.

Each seagoing tank vessel of 150 gross tons or more would have to have a minimum number of slop tanks. The slop tank standards include capacity requirements and requirements for inlet and outlet connections and allow separation aids.

Each seagoing tank vessel of 400 gross tons or more would have to have a tank that receives and holds oily residue resulting from purification of fuel and lubricating oil and from oil leakages in machinery spaces. Standards include capacity requirements and design details.

New seagoing tank vessels and certain existing seagoing tank vessels (defined in the proposed section 157.03(j) as a vessel that is not a new vessel) must have cargo tanks designed in accordance with the calculation procedures contained in the proposed Appendix A. Standards include piping arrangements and limitations of tank volume and length. These standards incorporate the provisions of Annex C of the 1971 Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954.

In accordance with the 1971 Amendments, a tank vessel contracted for after January 1, 1972, or where there was no building contract and the keel was laid or the tank vessel was at a similar stage of construction after June 30, 1972, must within two years after the entry into force of the Amendments be in compliance with Annex C. The 1971 Amendments have not entered into force. Similarly, section 2(5) of the Oil Pollution Act Amendments of 1973 (Pub. L. 93–119, 87 Stat. 424) which revised the Oil Pollution Act, 1961 (75 Stat. 402, 33 U.S.C. 1001 et seq.) requires that tank vessels built in the United States after the effective date of the section be built in compliance with Annex C. The effective date of section 2(5) is the date the amendments to the Convention, as amended, are ratified or accepted with the advice and consent of the Senate of the United States. As of the date of this proposal, ratification has not occurred. The Coast Guard has determined that the standards in Annex C are an essential part of regulations for the protection of the environment and the incorporation of the standards in this proposal should not be delayed until the Convention is ratified.

A new seagoing tank vessel must meet the proposed subdivision and damage stability criteria, after assuming side and bottom damage defined in the proposed Appendix B. Calculations for cargo tanks and subdivision and stability requirements would be submitted for Coast Guard review when the plans and specifications for the tank vessel are submitted. An instruction manual that describes operation of the cargo and ballast system in a tank vessel must be submitted for approval.

The proposed operating requirements would allow a tank vessel engaged in the carriage of oil on the navigable waters of the United States to discharge only clean ballast (defined in the proposed § 157.03(e)) or segregated ballast. The requirements would allow seagoing U.S. tank vessels of 150 gross tons or more, while en route, to discharge an oily mixture from a cargo tank and a machinery space bilge if the prescribed conditions are met. Oily mixtures from the cargo could be discharged more than 50 miles from the nearest land at an instantaneous rate of oil content not exceeding 60 liters per nautical mile, not exceeding 1/15,000 by existing vessels or 1/30,000 by new vessels of the total quantity of cargo that the discharge formed a part. Oily mixtures that are from machinery space bilges that are not combined with oil cargo mixtures could be discharged more than 12 nautical miles from the nearest land if the oil content of the effluent is less than 100 parts per million. The discharge standards contain requirements for aiding the processing of the effluent using certain equipment, e.g., oil-water separators, oil discharge monitors and control systems, oily water interface detectors, and other similar equipment. Although this proposal requires such equipment, the equipment will not be required to be installed until after specifications are published in the FEDERAL REGISTER. Oily mixtures which cannot be discharged in compliance with the above criteria must be retained on board the vessel or transferred to a reception facility. The 1973 Conference contains requirements for the establishment of reception facilities. This will also be the subject of regulations to be proposed at a later date.

Entries would have to be made in the Oil Record Book if certain operations occur on a tanker. These operations would include loading and unloading of oil cargo, internal transfer of oil cargo during a voyage, ballasting and cleaning of cargo tanks, discharge of water from slop tank, disposal of residues, and similar operations. In addition, the vessel would have to be operated in accordance with the stability information required in 46 CFR 31.01–30(d), the information developed from stability calculations based on proposed Appendix B, and the loading and distribution information necessary to comply with that criteria.

It should be noted that double bottoms beneath the cargo tank area are not proposed, nor are they prohibited. While all studies ascribe varying degrees of effectiveness to double bottoms as a means to reduce accidental oil outflows in grounding casualties, this reduction is directly related to the individual ship involved. The large number of existing vessels would preclude any immediate significant reduction in oil outflow due to requiring double bottoms. As an alternative to such a design requirement, a system of operation requirements to minimize accidents is being proposed in an advance notice of proposed rulemaking which appears on page 24157 of this issue of the FEDERAL REGISTER.

Research and development of a conceptual vessel maneuvering model is underway in the Coast Guard. This model will integrate vessel variables, port dependent variables, environmental variables, and human factors. It is premature to conclude that this research will result in standards for vessel maneuvering. Proposed requirements for tank ships and other ocean and coastwise vessels of 1,600 gross tons or more to carry maneuvering information in their pilothouses appear in the July 20, 1973, issue of the FEDERAL REGISTER (38 FR 19411).

A draft environmental impact statement that discusses these interim regulations has been filed with the Council on Environmental Quality.

In consideration of the foregoing, it is proposed to amend chapter 1 of title 33, Code of Federal Regulations, as follows:

1. Section 151.35 (c) and (d)(2) would be revised to read as follows:

§ 151.35 Oil Record Book.

* * * * *

(c) If an operation listed in this paragraph occurs, the Oil Record Book must be completed in accordance with the requirements contained in paragraph (e) of this section.

(1) The following operation on a tanker must be recorded on a tank-to-tank basis:

(i) Loading of oil cargo.

(ii) Internal transfer of oil cargo during a voyage.

(iii) Opening or closing before and after loading and unloading operations of valves or similar devices that interconnect cargo tanks.

(iv) Opening or closing of means of communication between cargo piping and seawater ballast piping.

(v) Opening or closing of vessel's cargo piping valves before, during, and after loading and unloading operations.

(vi) Unloading of oil cargo.

(vii) Ballasting of cargo tanks.

(viii) Cleaning of cargo tanks.

(ix) Discharge of ballast except from segregated ballast tanks.

(x) Discharge of water from slop tanks.

(xi) Disposal of residues.

(xii) Discharge overboard in port or at sea of bilge water accumulated in machinery spaces.

(2) The following operations on a ship other than a tanker must be recorded on a tank-to-tank basis:

(i) Ballasting, or cleaning during voyage, of bunker fuel tanks.

(ii) Disposal of oily residues from bunker fuel tanks or other sources.

(d) * * *

(2) The escape of oil or an oily mixture resulting from—

(i) Damage to the ship;

(ii) Unavoidable leakage; or

(iii) Any accident or other exceptional circumstance.

* * * * *

2. Subchapter O would be amended by adding Part 157 to read as follows:

PART 157—INTERIM RULES AND REGULATIONS FOR PROTECTION OF THE MARINE ENVIRONMENT RELATING TO TANK VESSELS ENGAGED IN DOMESTIC TRADE

Subpart A—General

Sec.

157.01 Purpose.
157.03 Definitions.
157.05 Rules of procedure and construction.
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Subpart B—Design Requirements

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157.09 Segregated ballast tanks.
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157.15 Slop tanks in vessels.
157.17 Oily residue tank.
157.19 Cargo tank arrangement and size.
157.21 Subdivision and stability.
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Subpart C—Vessel Operation

Sec.
157.25 Applicability.
157.27 Discharges; vessels engaged in the carriage of oil exclusively on rivers, lakes, bays, sounds, and the Great Lakes, and seagoing vessels of less than 150 gross tons.
157.29 Discharges; seagoing vessels of 150 gross tons or more.
157.31 Discharges; chemical additives.
157.33 Water ballast in oil fuel tanks.
157.35 Ballast added to cargo tank.
157.37 Discharge of cargo residue.
157.39 Machinery spaces bilges.
157.41 Emergencies.
157.43 Discharge in ports or at offshore terminal.
157.45 Valves in cargo or ballast piping system.
157.47 Information for master.
157.49 Instruction manual.

Appendix A—Damage assumptions, hypothetical outflows, and cargo tank size and arrangement.

Appendix B—Subdivision and stability assumptions.

AUTHORITY: R.S. 4417a (3) and (7), as amended (46 U.S.C. 391a (3) and (7)); 49 CFR 1.46 (o) (4).

Subpart A—General

§ 157.01 Purpose.

The regulations in this part apply to United States tank vessels engaged in the carriage of oil in domestic trade.

§ 157.03 Definitions.

As used in this part:

(a) "Length" or "L" means the distance in meters from the fore side of the stem to the axis of the rudder stock on a waterline at 85 percent of the least molded depth measured from the molded baseline, or 96 percent of the total length on that waterline, whichever is greater. In vessels designed with drag, the waterline is measured parallel to the designed waterline.

(b) "Amidships" means the middle of the length.

(c) "Breadth" or "B" means the maximum molded breadth of a vessel in meters.

(d) "Center tank" means any tank inboard of a longitudinal bulkhead.

(e) "Clean ballast" means the ballast in a tank which, if discharged from a vessel that is stationary into clean, calm water on a clear day, would not—

(1) Produce bisible traces of oil on the surface of the water or on adjoining shore lines; or

(2) Cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shore lines.

(f) "Combination carrier" means a vessel designed to carry oil or solid cargoes in bulk.

(g) "Deadweight" or "DWT" means the difference in metric tons between the lightweight displacement and the total displacement of a vessel measured in water of specific gravity 1.025 at the minimum permissible summer freeboard in accordance with the International Convention on Load Lines, 1966, April 5, 1966, 18 UST 1857, TIAS 6331, 640 UNTS 133.

(h) "Lightweight" means the displacement of a vessel in metric tons without cargo, oil fuel, lubricating oil, ballast water, fresh water and feedwater in tanks, consumable stores, and any persons and their effects.

(i) "New vessel" means a vessel that—

(1) Is constructed under a contract awarded after December 31, 1974;

(2) In the absence of a building contract, has the keel laid or is at a similar stage of construction after June 30, 1975;

(3) Is delivered after December 31, 1977; or

(4) Has undergone a major conversion for which—

(i) The contract is awarded after December 31, 1974;

(ii) In the absence of a contract, conversion is begun after June 30, 1975; or

(iii) Conversion is completed after December 31, 1977.

(j) "Existing vessel" means any vessel that is not a new vessel.

(k) "Major conversion" means a conversion of an existing vessel that—

(1) Substantially alters the dimensions or carrying capacity of the vessel;

(2) Changes the type of the vessel;

(3) The intent of which, in the opinion of the Coast Guard, is substantially to prolong the vessel's service life; or

(4) Otherwise so alters the vessel or a portion of the vessel that the vessel is no longer considered by the Coast Guard to be an existing vessel.

(l) "From the nearest land" means from the baseline from which the territorial sea of the United States is established in accordance with international law.

(m) "Instantaneous rate of discharge of oil content" means the rate of discharge of oil in liters per hour at any instant, divided by the speed of the vessel in knots at the same instant.

(n) "Oil" means petroleum in any form including oil, sludge, oil refuse, and refined products.

(o) "Oil fuel" means any oil used as fuel for the propulsion and auxiliary machinery of the vessel in which it is carried.

(p) "Oily mixture" means a mixture with any oil content.

(q) "Permeability of a space" means the ratio of the volume within a space that is assumed to be occupied by water to the total volume of that space.

(r) "Segregated ballast" means the ballast water that is introduced into a tank which is completely separated from the cargo oil and oil fuel system and which is permanently allocated to the carriage of ballast.

(s) "Slop tank" means a tank specifically designated for the collection of cargo drainings, washings, and other oil mixtures.

(t) "Tank" means an enclosed space that is formed by the permanent structure of a vessel, and designed for the carriage of liquid in bulk.

(u) "Tank barge" means a tank vessel not equipped with a means of self-propulsion.

(v) "Tank vessel" means a vessel that is specially constructed or converted to carry liquid bulk cargo in tanks and includes tankers, tankships, tank barges, and combination carriers when carrying oil cargoes in bulk.

(w) "U.S. vessel" means a vessel that is owned, documented, or registered in the United States and is not a public vessel.

(x) "Wing tank" means a tank that is located adjacent to the side shell plating.

(y) "Tankship" means a tank vessel propelled by mechanical power or sail.

(z) "Domestic trade" means trade between ports or places within the United States, its territories and possessions, either directly or via a foreign port including trade on the navigable rivers, lakes, and inland waters.

§ 157.05 Rules of procedure and construction.

In this part, unless the context requires otherwise—

(a) Metric system units must be used in performing calculations and measurements;

(b) Volumes and areas must be calculated using molded line dimensions of the vessel; and

(c) Forward and after perpendiculars are located at the forward and after ends of the lengths, respectively. The forward perpendicular coincides with the fore-side of the stem on the waterline on which the length of the vessel is measured.

§ 157.07 Equivalents.

The Coast Guard may accept an equivalent, in accordance with the procedure in 46 CFR 30.15–1, of a design or an equipment to fulfill a requirement in this part except an operational method may not be substituted for a design or equipment requirement.

Subpart B—Design Requirements

§ 157.08 Applicability.

(a) The requirements in this subpart apply to seagoing tank vessels of 150 gross tons or more, unless otherwise specified, except the requirements of §§ 157.11, 157.13, and 157.15 do not apply to a vessel that engages exclusively in the carriage of asphalt.

(b) The requirements in § 157.21 also apply to vessels engaged in the carriage of oil on the navigable waters of the Great Lakes.

§ 157.09 Segregated ballast tanks.

(a) A new vessel of 70,000 tons deadweight or more must be designed with segregated ballast tanks that comply with the requirements of this section.

(b) The combined capacity of the segregated ballast tanks must be of sufficient size so that the vessel can operate safely on ballast voyages without recourse to the use of oil tanks for water ballast.

(c) In any ballast condition during any part of a voyage, including the conditions consisting of lightweight and segregated ballast, the vessel's drafts and trim must meet each of the following requirements:

(1) The molded draft amidship (dm) in meters without taking into account vessel deformation must not be less than dm in the following mathematical relationship:

$$dm = 2.0 + 0.02L$$

(2) The drafts at the forward and after perpendiculars must correspond to those determined by the draft amidship as specified in paragraph (c)(i) of this section, in association with the trim by the stern of no more than 0.015L.

(3) The minimum allowable draft at the after perpendicular is that which is necessary to obtain full immersion of the propeller.

(d) The vessel may be designed to carry ballast water in a cargo tank during the condition described in § 157.35.

§ 157.11 Pumping, piping, and discharge arrangements.

(a) If a vessel's operation includes discharging into the sea effluent that is in compliance with subpart C of this part, a pipeline that terminates on a weather deck or on the vessel's side above the waterline in the deepest ballast condition must be installed except—

(1) An additional piping arrangement may be used for the discharge of segregated ballast and clean ballast below the waterline while the vessel is in a port or at an offshore terminal; and

(2) An existing vessel is not required to alter piping to discharge segregated ballast above the waterline in the deepest ballast condition.

(b) A vessel must have a fixed piping system designed to allow the transfer of dirty ballast residue and tank washings from a cargo tank into a slop tank.

(c) Except as allowed in § 155.370(b)(2) of this chapter, a vessel must have a manifold that is located on the weather deck and that terminates on each side of the vessel for connection to a reception facility to transfer dirty ballast water or an oily mixture.

§ 157.13 Designated area.

A new vessel must have a designated observation area on the weather deck or above that is—

(a) Located so that the effluent from the pipeline terminations required in § 157.11(a) and the discharge manifold required in § 157.11(c) may be visually observed; and

(b) Equipped with—

(1) A means to directly stop the discharge of effluent into the sea; or

(2) A positive communication system, such as a telephone or a radio, between the observation area and the discharge control position.

§ 157.15 Slop tanks in vessels.

(a) *Number.* A vessel must have the following minimum number of slop tanks that comply with the requirements of this section:

(1) A new vessel of less than 70,000 tons DWT and an existing tank vessel must have one slop tank.

(2) A new tank vessel of 70,000 tons DWT or more must have two slop tanks.

(b) *Capacity.* Slop tanks must have the capacity to retain slop from tank washings, oil residues, and dirty ballast residues but the total capacity may not be less than three percent of the oil carrying capacity except two percent capacity may be allowed if—

(1) There are segregated ballast tanks that meet the requirements contained in § 157.09; or

(2) There are no eductors fitted that use water in addition to the washing water.

(c) *Design.* A slop tank must be designed to minimize turbulence, entrainment of oil, and the creation of an emulsion in the tank by the use of separate inlet and outlet connections, and if baffles, weirs, or similar separation aids are used, they must aid in the oil/water separation process.

NOTE: An existing vessel must comply with the requirements in § 157.15 before December 31, 1977.

§ 157.17 Oily residue tank.

(a) A vessel of 400 gross tons or more must have a tank that receives and holds oily residue resulting from purification of fuel and lubricating oil and from oil leakages in machinery spaces.

(b) Each oily residue tank required in paragraph (a) of this section must have an adequate capacity that is determined by the—

(1) Type of machinery installed on the vessel; and

(2) Maximum fuel oil capacity.

(c) Each oily residue tank on a new vessel must be designed to facilitate—

(1) Cleaning; and

(2) Discharging to a reception facility.

NOTE: An existing vessel must comply with the requirements in § 157.17 (a) and (b) before December 31, 1977.

§ 157.19 Cargo tank arrangement and size.

(a) The requirements in this section apply to—

(1) A new vessel;

(2) A vessel delivered after January 1, 1977; and

(3) A vessel that is delivered before January 1, 1977 for which the building contract is awarded after January 1, 1972, or, if there is no building contract, the keel is laid or the vessel is at a similar stage of construction after June 30, 1972.

(b) As determined in accordance with the procedures contained in Appendix A of this part, each cargo tank must be of such size and arrangement that—

(1) The hypothetical outflow for side damage (O_c) or for bottom damage (O_s) anywhere within the length of the vessel must not exceed O_A (30,000 cubic meters or $400^3\sqrt{DWT}$, whichever is greater, limited to a maximum of 40,000 cubic meters);

(2) The volume of each wing cargo tank and center cargo tank is less than the allowable volume of a wing cargo tank (VOL_W) and the allowable volume of a center cargo tank (VOL_C) respectively; and

(3) The length of a cargo tank is less than the allowable length of a cargo tank (l_a).

(c) If a cargo transfer system interconnects two or more cargo tanks, the system must have valves to segregate the tanks from each other.

(d) A line of piping that runs through a cargo tank in a position less than t_c from the vessel's side or less than v_s from the vessel's bottom, as defined in Appendix A of this part, must be fitted with a valve at the point the piping opens into a cargo tank.

(e) If piping that serves suction wells is installed within a double bottom, the piping must be—

(1) Fitted with valves located at the point of connection to the tank served to prevent oil outflow in the event of damage to the piping; and

(2) Designed to be installed as high from the bottom shell as possible.

(f) Calculations of the tank arrangement and size requirement contained in paragraph (b) of this section must be submitted for Coast Guard review with the plans and specifications that are required in 46 CFR 31.10–5.

NOTE.—Vessels within the categories in § 157.19(a)(3) must meet the requirements in § 157.19 before December 31, 1976. If a vessel is constructed under a contract that was awarded before January 1, 1974 and does not carry crude oil, fuel oil, heavy diesel oil, or lubricating oil, the requirements in § 157.19 do not apply.

§ 157.21 Subdivision and stability.

(a) A new vessel must meet the following subdivision and damage stability criteria after assuming side and bottom damage as defined in Appendix B of this part:

(1) The final waterline, taking into account sinkage, heel, and trim, must be below the lower edge of an opening through which progressive flooding may take place, such as an air pipe, or an opening that is closed by means of a weathertight door or hatch cover. This opening does not include those closed by a—

(i) Watertight manhole cover;

(ii) Flush scuttle;

(iii) Small watertight cargo tank hatch cover that maintains the high integrity of the deck;

(iv) Remotely operated watertight sliding door; or

(v) Side scuttle of the non-opening type.

(2) In the final stage of flooding, the angle of heel due to unsymmetrical flooding must not exceed 25 degrees, except that this angle may be increased to 30 degrees if no deck edge immersion occurs.

(3) For acceptable stability in the final stage of flooding, the righting lever curve must have a range of at least 20 degrees beyond the position of equilibrium in association with a maximum residual righting lever of at least 0.1 meter. Protected or unprotected openings that may become temporarily immersed within the range of residual stability must be accounted for in the calculation.

(4) The stability must be sufficient during intermediate stages of flooding.

(b) Calculations to substantiate compliance with subdivision and damage stability criteria contained in paragraph (a) of this section must be submitted for Coast Guard review with the plans and specifications required in 46 CFR 31.10–5 and must include—

(1) The design characteristics of the vessel, the arrangements, configuration and contents of the damaged compartments; and

(2) The distribution, specific gravities, and the free surface effect of liquids.

§ 157.23 Cargo and ballast system information.

(a) A vessel designed in accordance with the requirements of this part must have an instruction manual that describes the automatic and manual operation of the cargo and ballast system in the vessel and that is approved by the Coast Guard with the plans and specifications required in 46 CFR 31.10–5.

(b) The style and format of the instruction manual required in paragraph (a) of this section must be similar to the manual entitled "Clean Seas Guide for Oil Tankers" which can be obtained from the International Chamber of Shipping, 30–32 St. Mary Axe, London, England, EC3A 8ET.

Subpart C—Vessel Operation

§ 157.25 Applicability.

This subpart prescribes regulations for the discharging of clean ballast, segregated ballast, and oily mixtures from, and for the carriage of ballast water on—

(a) Vessels engaged in the carriage of oil exclusively on rivers, lakes, bays, sounds, and the Great Lakes; and

(b) Seagoing vessels.

§ 157.27 Discharges; vessels engaged in the carriage of oil exclusively on rivers, lakes, bays, sounds, and the Great Lakes, and seagoing vessels of less than 150 gross tons.

Unless a vessel engaged in the carriage of oil exclusively on rivers, lakes, bays, sounds, and the Great Lakes, or a seagoing vessel of less than 150 gross tons discharges clean ballast or segregated ballast, the vessel must—

(a) Retain on board an oily mixture; or

(b) Transfer an oily mixture to a reception facility.

§ 157.29 Discharges; seagoing vessels of 150 gross tons or more.

Unless a seagoing vessel of 150 gross tons or more discharges an oily mixture in compliance with the requirements in §§ 157.37, 157.39, or 157.43, the vessel must—

(a) Retain the mixture; and

(b) Transfer the mixture to a reception facility.

§ 157.31 Discharges; chemical additives.

No person may use a chemical additive to circumvent the discharge requirements in §§ 157.27, 157.29, 157.37, 157.39, and 157.43.

§ 157.33 Water ballast in oil fuel tanks.

A new vessel may not carry ballast water in an oil fuel tank.

§ 157.35 Ballast added to cargo tank.

A vessel that meets the design requirement in § 157.09(c) may carry water ballast in a cargo tank during abnormally severe weather conditions if more ballast water than can be carried in segregated ballast tanks is required for the safety of the vessel. This ballast water must be—

(a) Processed and discharged in compliance with the requirements in § 157.37; and

(b) Recorded in the Oil Record Book in accordance with the requirements in § 151.35(c)(1)(vii) of this chapter.

§ 157.37 Discharge of cargo residue.

(a) Except as required in paragraph (b) of this section, the discharge into sea of an oily mixture from a cargo tank and cargo pump room bilges of a vessel is prohibited unless the vessel—

(1) Is more than 50 nautical miles from the nearest land;

(2) Is proceeding en route;

(3) Is discharging at an instantaneous rate of oil content not exceeding 60 liters per nautical mile;

(4) Is an existing vessel and the total quantity of oil discharge into the sea does not exceed 1/15,000 of the total quantity of the cargo that the discharge formed a part, or is a new vessel and the total quantity of oil discharged into the sea does not exceed 1/30,000 of the total quantity of the cargo that the discharge formed a part; and

(5) Has in operation an oil discharge monitoring and control system approved by the Coast Guard (specification regulation to be proposed).

(b) A vessel that engages exclusively in the carriage of asphalt must transfer cargo residues and tank washings to a reception facility.

§ 157.39 Machinery spaces bilges.

(a) No vessel may discharge an oily mixture from a machinery space bilge that is combined with an oil cargo mixture unless the vessel discharges in compliance with § 157.37.

(b) A vessel may discharge an oily mixture from a machinery space bilge that is not within the prohibition contained in paragraph (a) of this section if the vessel—

(1) Is more than 12 nautical miles from the nearest land;

(2) Is proceeding en route;

(3) Is discharging an effluent with an oil content of less than 100 parts per million; and

(4) Has in operation an oil discharge monitoring and control system approved by the Coast Guard (specification regulation to be proposed) and an oily water separating equipment approved by the Coast Guard (specification regulation to be proposed).

§ 157.41 Emergencies.

Sections 157.27, 157.29, 157.37, and 157.39 do not apply to a vessel that discharges into the sea oil or oily mixtures—

(a) For the purpose of securing the safety of the vessel or for saving life at sea; or

(b) As a result of damage to the vessel or its equipment if—

(1) Reasonable precautions are taken after the occurrence of the damage or discovery of the discharge for the purpose of preventing or minimizing the discharge; and

(2) The owner, master or person in charge did not intend to cause damage, or did not act recklessly and with knowledge that damage of the environment would probably result.

§ 157.43 Discharge in ports or at offshore terminal.

A master may discharge in a port or at an offshore terminal segregated ballast and clean ballast through the piping described in § 157.11(a) if he makes a visual examination of the top of the contents of the tank to be discharged and finds there is no oily mixture in the contents.

§ 157.45 Valves in cargo or ballast piping system.

If a vessel is at sea and the tanks contain oil, each valve or closing device in the cargo or ballast piping system or in the transfer system must be kept closed except they may be opened for cargo transfer to trim the vessel.

§ 157.47 Information for master.

A master or person in charge shall operate the vessel in accordance with the—

(a) Stability information required in 46 CFR 31.01–30(d);

(b) Damage stability information determined in accordance with the criteria contained in Appendix B of this part; and

(c) Loading and distribution of cargo information determined in compliance with the damage stability criteria required in Appendix B of this part.

§ 157.49 Instruction manual.

No person may operate the cargo and ballast systems unless he operates in compliance with the approved instruction manual required in § 157.23.

APPENDIX A—DAMAGE ASSUMPTIONS, HYPOTHETICAL OUTFLOWS, AND CARGO TANK SIZE AND ARRANGEMENTS

1. *Source.* The procedures for the damage assumption calculations contained in this Appendix conform to Regulations 22, 23, and 24 of Annex I of the International Convention for the Prevention of the Pollution from Ships, 1973 done at London, November 2, 1973.

2. *Assumptions.* For the purpose of calculating hypothetical outflow from tank vessels, three dimensions of the extent of damage of a parallelepiped on the side and bottom of the vessel are assumed.

(a) For side damage, the conditions are as follows:

Damage:	*Conditions*
(1) Longitudinal extent (l_c):	$\frac{1L^{2/3}}{3}$ or 14.5 meters, whichever is less.
(2) Transverse extent (t_c): (inboard from the vessel's side at angles to the centerline at the level corresponding to the assigned summer freeboard).	$\frac{B}{5}$ or 11.5 meters whichever is less.
(3) Vertical extent (v_c):	From the base line upwards without limit.

(b) For bottom damage, two conditions to be applied individually to the stated portions of the vessel, as follows:

Damage	Conditions	
	For 0.3L from the forward perpendicular of ship	Any other part of ship
(1) Longitudinal extend (l_s).	$\frac{L}{10}$	$\frac{L}{10}$ or 5 meters, whichever is less.
(2) Transverse extent (t_s).	$\frac{B}{6}$ or 10 meters, whichever is less but not less than 5 meters.	5 meters.
(3) Vertical extent from the base line (v_s).	$\frac{B}{15}$ or 6 meters, whichever is less.	$\frac{B}{15}$ or 6 meters, whichever is less.

3. *Hypothetical Outflow of Oil.* (a) The hypothetical outflow of oil in the case of side damage (O_c) and bottom damage (O_s) is calcalculated by the following formula with respect to compartments breached by damage to all conceivable locations along the length of the vessel to the extent as defined in section 2 of this Appendix.

(1) For side damages: Formula (I)

$$O_c = \sum W_i + \sum K_i C_i$$

(2) For bottom damage: Formula (II)

$$O_s = \frac{1}{3}(\sum Z_i W_i + \sum Z_i C_i)$$

Where:

W_i = Volume of a wing tank assumed to be breached by the damage as specified in section 2 of this Appendix; W_i for a segregated ballast tank may be taken equal to zero,

C_i = Volume of a center tank assumed to be breached by the damage as specified in section 2 of this Appendix C_i for a segregated ballast tank may be taken equal to zero,

$K_i = 1 - \frac{b_i}{T_c}$: when b_i is equal to or greater than t_c, K_i is equal to zero,

$Z_i = 1 - \frac{h_i}{v_s}$: when h_i is equal to or greater than v_s, Z_i is equal to zero,

b_i = Minimum width of wing tank under consideration measured inboard from the vessel's side at right angles to the centerline at the level corresponding to the assigned summer freeboard.

h_i = Minimum depth of the double bottom under consideration; where no double bottom is fitted, h_i is equal to zero.

(b) If a void space or segregated ballast tank of a length less than l_c is located between wing oil tanks, O_c in formula (I) of this section may calculated on the basis of volume W_i being the actual volume of one such tank (where they are of equal capacity) or the smaller of the two tanks (if they differ in capacity), adjacent to such space, multiplied by S_i as defined below and taking for all other wing tanks involved in such a collision the value of the actual full volume.

$$S_i = 1 - \frac{-l_i}{l_c}$$

Where l_i = length of void space or segregated ballast tank under consideration.

(c) Credit may only be given in respect of double bottom tanks which are either empty or carrying clean water when cargo is carried in the tanks above.

(1) If the double bottom does not extend for the full length and width of the tank involved, the double bottom is considered nonexistent and the volume of the tanks above the area of the bottom damage must be included in formula (II) of this section even if the tank is not considered breached because of the installation of such a partial double bottom.

(2) Suction wells may be neglected in the determination of the value h_i if such wells are not excessive in area and extend below the tank for a minimum distance and in no case more than half the height of the double bottom. If the depth of such a well exceeds half the heights of the double bottom h_i taken equal to the double bot-height minus the well height.

(d) In the case where bottom damage simultaneously involves four center tanks, the value of O_s may be calculated according to formula (III) as follows:

$$O_s = 1/4(\sum Z_i W_i + \sum Z_i C_i)$$

4. *Allowable volumes of cargo tanks.* (a) The allowable volume of a wing cargo tank (VOL_w) is equal to seventy-five percent of O_A. In a segregated ballast tank vessel VOL_w may equal O_A for a wing cargo oil tank located between two segregated ballast tanks each of lentgh greater than l_c and width greater than t_c.

(b) The allowable volume of a center cargo tank (VOL_c) is 50,000 cubic meters.

5. *Allowable length of cargo tanks.* The allowable length of a cargo tank (l_s) is equal to the greater of 10 meters or one of the following values:

(a) If no longitudinal bulkhead is provided, 0.1L

(b) If a longitudinal bulkhead is provided at the centerline only, 0.15L

(c) If two or more longitudinal bulkheads are provided:

(1) For wing tanks, 0.2L; and

(2) For center tanks—

(i) If $\frac{b_i}{B}$ is equal to or greater than $\frac{1}{5}$, 0.2L; or

(ii) If $\frac{b_i}{B}$ is less than $\frac{1}{5}$ and—

(A) No centerline longitudinal bulkhead is provided, $(0.5\frac{b_i}{B} + 0.1)$ L; or

(B) A centerline longitudinal bulkhead is provided, $(0.25\frac{b_i}{B} + 0.15)$ L.

Appendix B—Subdivision and Stability Assumptions

1. *Source.* The procedures for the loading assumption calculations contained in this Appendix conform to Regulation 25 of Annex I of the International Convention for the Prevention of the Pollution from Ships, 1973, done at London, November 2, 1973.

2. *Loading Assumptions.* For the purpose of calculating subdivision and damage stability for a tank vessel, the operating drafts must reflect actual partial or full load conditions consistent with trim and strength of the vessel. Ballast conditions need not be considered if the tank vessel is not carrying oil in cargo tanks excluding oily residues. Loading condition must reflect the specific gravities of the cargo.

3. *Damage Assumptions.* (a) Damage is applied to all conceivable locations along the length of the vessel as follows:

(1) For a vessel of more than 225 meters in length, anywhere in the vessel's length.

(2) For a vessel of more than 150 meters, but not exceeding 225 meters in length, anywhere in the vessel's length except where the after or forward bulkhead bounding a machinery space located aft is involved in the damage assumption. The machinery space is calculated as a single floodable compartment.

(3) For a vessel less than 150 meters in length, anywhere in the vessel's length between adjacent transverse bulkheads except the machinery space.

(b) The extent and the character of the assumed side or bottom damage, as defined in section 2 of Appendix A of this part, must be applied except longitudinal bottom damage within 0.3L from the forward perpendicular must be assumed to be the same as that for side damage. If any damage of lesser extent results in a more severe condition, such damage must be assumed.

(c) Where damage involves transverse bulkheads as specified in paragraphs (a) (1) and (2) of this section, transverse watertight bulkheads must be spaced at least at a distance equal to the longitudinal extent of assumed damage specified in paragraph (a) (1) of this section in order to be considered effective. Where transverse bulkheads are spaced at a lesser distance, one or more of these bulkheads within such extent of damage must be assumed as nonexistent for the purpose of determining flooded compartments.

(d) If the damage between adjacent transverse watertight bulkheads is within the definition contained in paragraph (a) (3) of this section, no main transverse bulkhead or a transverse bulkhead bounding side tanks or double bottom tanks is to be assumed damaged, unless—

(1) The spacing of the adjacent bulkheads is less than the longitudinal extent of assumed damage defined in paragraph (b) of this section; or

(2) There is a step or a recess in a transverse bulkhead of more than 3.05 meters in length, located within the extent of penetrations of assumed damage. The step formed by the after peak bulkhead and after peak tank top is not regarded as a step for these calculations.

(e) If pipes, ducts, or tunnels are situated within the assumed extent of damage, there must be arrangements so that progressive flooding may not thereby extend to compartments other than those assumed to be floodable for each case of damage.

4. *Characteristic and Condition Assumptions for Calculations.* (a) Account must be taken of any empty or partially filled tanks, the specific gravity of cargoes carried, and any outflow of liquids from damaged compartments.

(b) The permeabilities are assumed as follows:

Intended Space Use:	Permeability
Stores	0.60
Accommodation	0.95
Machinery	0.85
Voids	0.95
Consumable liquids	[1] 0 or 0.95
Other liquids	[2] 0 or 0.95

[1] Whichever results in the more severe requirements.

[2] The permeability of partially filled compartments must be consistent with actual density and the amount of liquid carried.

(c) The buoyance of any superstructure directly above the side damage is to be disregarded. The unflooded parts of superstructures beyond the extent of damage may be taken into consideration if they are separated from the damaged space by watertight bulkheads and no progressive flooding of these intact spaces takes place. Class I doors are allowed in watertight bulkheads in the superstructure.

(d) The free surface effect is to be calculated at an angle of 5 degrees for each individual full compartment. Partially filled tanks must have free surface corrections computed at final angle of heel.

(e) In calculating the effect of free surfaces of consumable liquids, it is to be assumed that, for each type of liquid, at least one transverse pair or a single centerline tank has a free surface and the tank or combination of tanks to be taken into account is to be those where the effect of free surface is the greatest.

(R.S. 4417a(3) and (7), as amended (46 U.S.C. 391a(3) and (7)); 49 CFR 1.46(o)(4)).

Dated: June 25, 1974.

W. M. BENKERT,
Rear Admiral, U.S. Coast Guard, Chief, Office of Merchant Marine Safety.

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[33 CFR Subchapter P]

[CGD 74-77]

MARINE TRAFFIC REQUIREMENTS

Advance Notice of Proposed Rulemaking

The Coast Guard is considering adding requirements to the ports and waterways safety regulations that would govern the operation of all major U.S. and foreign vessels in the navigable waters of the United States except those in innocent passage not bound for or departing U.S. ports. Also being considered are requirements for the carriage or installation of equipment and devices on vessels of more than 150 gross tons.

AUTHORITY FOR REGULATIONS

The regulations would be proposed under the authority of sections 104 and 201(R.S. 4417a(3)) of the Ports and Waterways Safety Act of 1972 (Pub. L. 92-340, 86 Stat. 424), as delegated in 49 CFR 1.46(o)(4); section 311(j) of the Federal Water Pollution Control Act, Pub. L. 92-500, 86 Stat. 862, 33 U.S.C. 1321), as delegated in section 2 of E.O. 11735 (38 FR 21243) and 49 CFR 1.46(m); and the National Environmental Policy Act of 1969 (83 Stat. 852, 42 U.S.C. 4231, et seq.).

COMMENTS ON ADVANCE NOTICE

Interested persons are requested to assist the Coast Guard by submitting written comments, data, views, or arguments to the Executive Secretary, Marine Safety Council (G-CMC/82), room 8234, U.S. Coast Guard, Washington, D.C. 20590. A participant in this rule making procedure should furnish comments, views, data, or arguments to the Coast Guard as soon as possible but no later than August 19, 1974. Copies of material received will be available for examination in room 8234. Arrangements for State and local governments, representatives of the marine industry, port and harbor authorities, environment groups, and other interested parties to discuss with representatives of the Coast Guard the proposal in this advance notice may be made with the Executive Secretary at 202-426-1477.

Oral comments may be submitted on this advance notice at the public hearings the Coast Guard will hold on Docket CGD 74-32, the notice of which appears on page ____ of this issue of the FEDERAL REGISTER. The public hearings will be held on July 23 and 24, 1974, beginning at 9:00 a.m., in the Shaw Room, Seattle Center, 303 Harrison St., Seattle, Washington, and on July 30 and 31, 1974, beginning at 9:00 a.m., in Room 2232, 400 Seventh St. SW., Washington, D.C. It is requested that anyone desiring to make oral comments at either hearing notify the Executive Secretary, at the above stated address by July 19, 1974, and specify the approximate length of time needed for his presentation. Submission of a written summary or copy of the oral presentation is encouraged.

DISCUSSION OF PROPOSED REGULATIONS

Senate Report No. 92-724 (March 28, 1972) states that the purpose of the Ports and Waterways Safety Act of 1972 (Pub. L. 92-340, 86 Stat. 424) is to promote the safety and protect the environmental quality of ports, waterfront areas, and the navigable waters of the United States. Broad authority is granted by title I of the Act to establish, operate, and maintain vessel traffic services and systems for ports, harbors, and other waters subject to congested vessel traffic and "control vessel traffic in areas determined to be especially hazardous, or under conditions of reduced visibility, adverse weather, vessel congestion, or other hazardous circumstances" in order to "prevent damage to, or the destruction or loss of any vessel, bridge, or other structure on or in the navigable waters of the United States, or any land structure or shore area immediately adjacent to those waters; and to protect the navigable waters and the resources therein from environmental harm resulting from vessel or structure damage, destruction, or loss * * *"

In addition, title II of the Ports and Waterways Safety Act of 1972 authorizes comprehensive regulations for the design, construction, alteration, repair, maintenance, and operation of tankers and certain other vessels. The reason stated for this provision of the Act is as follows: "[T]he carriage by vessels of certain cargoes in bulk creates substantial hazards to life, property, the navigable waters of the United States (including the quality thereof) and the resources contained therein . . . [and] that existing standards for the design, construction, alteration, repair, maintenance, and operation of such vessels must be improved for the adequate protection of the marine environment."

The Federal Water Pollution Control Act (86 Stat. 862, 33 U.S.C. 1321(b)(1)) states the policy of the United States as follows: "[T]here should be no discharges of oil or hazardous substances into or upon the navigable waters of the United States, adjoining shorelines or into or upon the waters of the contiguous zone." Regulations issued under the authority of section 311(j) of this Act are required to be consistent with maritime safety and navigation laws.

Section 101(a) of the National Environmental Policy Act of 1969 (83 Stat. 852, 42 U.S.C. 4231) states that it is the continuing policy of the Federal Government, in cooperation with State and local governments, and other concerned public and private organizations, to use all practicable means and measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans. The Act authorizes and directs that to the fullest extent possible the policies, regulations, and public laws of the United States must be interpreted and administered in accordance with the policies set forth in the Act.

In view of the policy stated in these statutes and in view of the increasing vessel traffic carrying hazardous cargoes, the Coast Guard has determined that there must be an improvement in the operating practices aboard all major vessels on the navigable waters. The increasing number of large vessels carrying hazardous cargoes in bulk on the navigable waters of the United States has created a significant and growing hazard to life, property, and the marine environment. Eighty percent of vessel casualties occur within coastal and harbor regions. The *Torrey Canyon* grounding, the *Tamano* grounding, the *Oregon Standard* and the *Arizona Standard* collision, and the tug *Carolyn* and *Weeks Barge No. 254* collision with the Chesapeake Bay bridge and Tunnel, exemplify casualties that have occurred in waters adjacent to shore areas. Each of these casualties posed a significant threat to life, property, and the environment. Information regarding these incidents and similar incidents reveals that human error is often the primary cause of casualties. The conclusion of a study based on Coast Guard investigations is that

human error is a contributing factor in 85 percent of casulties.

Currently, oil constitutes sixty percent of the cargo carried by vessels traversing the oceans of the world. A Coast Guard study projects that the total tonnage of tankers carrying oil in 1975 will be at least one and one-half times greater than the tonnage in 1971. S. Rep. No. 92-724 indicates a similar increase in the amount of oil to be carried. Due to the increasing U.S. reliance on imported crude oil, the hazard to life, property, and the environment will also increase as the waters become more congested with traffic. The Coast Guard believes that only uniform requirements imposed on all major vessels can produce safer conditions for congested or hazardous maritime traffic since any vessel over 150 gross tons can collide or create an imminent collision or grounding situation involving a vessel carrying oil in bulk. Therefore, it is the ultimate goal of the regulations under consideration to establish safer standards for the operation of vessels capable of causing a major casualty within the navigable waters.

Regulations To Be Proposed

The purpose of any regulations to be proposed is to prevent maritime casualties and the resultant discharge of oil or hazardous substances into the navigable waters of the United States by regulating the operating requirements of major vessels on those waters. The equipment and operating regulations to be proposed would apply to foreign vessels when bound for or departing from U.S. ports and to United States seagoing vessels that operate within the navigable waters of the United States. Seagoing vessels generally include those vessels on coastal and ocean trade routes. Vessels on the St. Lawrence Seaway, the Great Lakes, and vessels operating only within rivers, lakes, bays, and sounds would be excepted from the requirements of paragraphs 2, 3, and 4 of this advance notice. However, the proposed requirements of paragraph 1 of this notice would apply to all vessels including those operating on the Great Lakes, and rivers, lakes, bays, and sounds. Further regulations for the Great Lakes are dependent upon final agreement between Canada and the United States. Further requirements for vessels operating exclusively on rivers, lakes, bays, and sounds will depend upon additional evaluation of the practical and economic impact of operating requirements on these vessels by the Coast Guard.

This advance notice is not intended to indicate that the Coast Guard has formed final conclusions on any aspect of the proposal. Public comment on the functions to be required, the tonnages specified, and the applicability of the requirements to a particular class of vessels is requested and will be used in determining the regulations to be proposed. This advance notice proposes specific functions and tonnages in order to provide a starting point for public comment. The following description sets forth the substance of the regulations to be proposed.

Substance of Regulations To Be Proposed

1. All U.S. and foreign vessels in the navigable waters except vessels in innocent passage not bound for or departing U.S. ports would be required to comply with:

a. The specific requirements of any vessel traffic system through which the vessel passes.

b. The orders of the Captain of the Port [1] when he makes an individual case determination that a particular area is especially hazardous or that hazardous circumstances exist within his jurisdictional boundaries. The Captain of the Port considers the following factors among others before issuing any order:

(1) Configuration of the wateway involved including the depth and width of the channel to be transited.
(2) Wind direction and velocity.
(3) Tidal current and stage of tide.
(4) Visibility.
(5) Time of day.
(6) Type and amount of cargo being carried.
(7) Hull design of the vessel involved including the presence or lack of a double hull, double bottom, and cargo segregation.
(8) Propulsion system of the vessel including factors such as horsepower, number of shafts, size of propellers, bow thrusters, stern thrusters, and other similar variables which affect controllability and maneuverability of the vessel.
(9) Tugs in attendance.
(10) Inoperative or deficient equipment aboard the vessel that may affect its ability to safely transit the navigable waters.
(11) Type and density of other vessel traffic operating in the same waterway.
(12) The presence of a pilot aboard the vessel.
(13) The requests and recommendations of the vessel's master, person in charge, and pilot.
(14) Vessel speed and intended time of transit.
(15) Intended route and destination of vessel.

2. All U.S. and foreign vessels that are self-propelled seagoing vessels or seagoing towing vessels with tow in any configuration whose aggregate tonnage exceeds the specified amount, except a vessel in innocent passage not bound for or departing a U.S. port would be required to maintain and use the following equipment when within the navigable waters:

a. *Vessels of more than 150 gross tons.* (1) One radar.

(2) A properly adjusted magnetic compass.

(3) A fathometer in the pilothouse.

(4) Piloting navigation instruments such as parallel rules, dividers, and related instruments necessary for maintaining an accurate plot of vessel movement on a chart;

(5) Corrected charts of the largest scale practicable for the area being transited.

(6) Current corrected copies of the Coast Pilot and the Light List and current copies of tide tables and tidal current tables for the waters being transited.

b. *Vessels of more than 1600 gross tons.* (1) A gyro compass.

(2) A towing pendant. An unmanned barge would be required to have a towing pendant rigged over the side.

(3) A recording fathometer. Fathometer records would be retained on board the vessel for at least 30 days.

(4) A means that visually indicates the speed of the vessel.

c. *Vessels of more than 5000 gross tons.* (1) A course recorder. Course recorder records would be retained on board the vessel for at least 30 days.

(d) *Vessels of more than 10,000 gross tons.* (1) A second radar. One radar would be equipped with an "anti-collision" device. One of the two radars would have an "S-band" (10 centimeter) capability and the other would have an "X-band" (3 centimeter) capability. Each radar would be suitable for surface navigation operation.

e. *Self-propelled tank ships of more than 35,000 gross tons.* (1) A rate of turn indicator.

3. All U.S. and foreign vessels that are self-propelled seagoing vessels of 150 gross tons or more, or seagoing towing vessels with tow in any configuration whose aggregate tonnage exceeds 150 gross tons, except those in innocent passage not bound for or departing U.S. ports, would be required to have personnel on board comply with the following requirements before entering into and before getting underway within the navigable waters:

a. Test and log the testing of the following vital systems:

(1) Steering (all modes and stations).
(2) Emergency generator.
(3) Remote machinery controls.
(4) Main propulsion for power ahead and astern.
(5) Internal vessel communications.
(6) Vessel alarms and signaling devices.

b. The master, person in charge, or pilot of a vessel would be required to be familiar with the details of each notice to mariners relevant to the vessel's intended track since the date of the corrected chart being used to transit the area.

4. All U.S. and foreign vessels that are self-propelled seagoing vessels of 1600 gross tons or more, or seagoing towing vessels with tow in any configuration whose aggregate tonnage exceeds 1600 gross tons, except those in innocent passage not bound for or departing U.S. ports, would be required to have personnel on board comply with the following requirements when underway within the navigable waters:

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[1] In the March 1, 1974 isue of the Federal Register (39 FR 7948), the Coast Guard published an advance notice of proposed rulemaking regarding regulations to authorize each District Commander and Captain of the Port to control vessel traffic in especially hazardous areas or during hazardous circumstances, and to direct the movement of a vessel whenever necessary to prevent damage to or by that vessel. This document paragraph is intended to supplement the advance notice published in 39 FR 7948.

a. Within the confines of harbors and hazardous waterways (to be identified by the Captain of the Port in the FEDERAL REGISTER) sufficient competent personnel on board self-propelled vessels would:

(1) Stand by the primary steering machinery space to handle a steering casualty.

(2) Man the anchor windlass or similar equipment in order to be ready to drop anchor. One bow anchor on these vessels would be ready for letting go.

(3) Man the main steering control station to manually control the vessel direction.

b. Set the main ship's propulsion system to maneuvering mode. The vessel's main propulsion spaces would be manned with personnel competent to manually answer engine maneuvering orders if any automatic engine maneuvering system fails to perform properly.

c. Plot the vessel's movement on the corrected chart for the area being transited. Towing vessels with tow in any configuration whose aggregate tonnage is less than 10,000 gross tons would not be required to comply with this requirement. The person maintaining the plot would be required to lay out a trackline of intended vessel movement on the chart. Position fixes would be plotted at sufficiently frequent intervals so that the position of the vessel with respect to the trackline is indicated. If a casualty occurs, the chart would be required to be retained. It is contemplated that a licensed deck officer or licensed operator other than the person actually controlling vessel movement would maintain the plot. The person actually controlling vessel movement would obtain from the person maintaining the plot information on the vessel's movement that is timely, accurate, and understandable.

d. Maintain a bow lookout with adequate communication to the bridge. The master of the vessel would not be required to station a lookout on the bow when conditions prevented the lookout from performing his assigned function.

(Sec. 104 and 201 (R.S. 4417a(3)), 86 Stat. 424, Sec. 311(j), 86 Stat. 862 (33 U.S.C. 1321), 83 Stat. 852 (42 U.S.C. 4231); Sec. 2, E.O. 11735; 49 CFR 1.46 (m) and (o)(4))

Dated: June 25, 1974.

W. M. BENKERT,
Rear Admiral, U.S. Coast Guard, Chief, Office of Merchant Marine Safety.

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